REPLICATE AERIAL PHOTOGRAPHIC CENSUSES OF OREGON COMMON MURRE COLONIES 1995

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INTRODUCTION

The common murre (*Uria aalge*) is the most abundant breeding seabird species in Oregon, with an estimated mean breeding population of 722,559 birds since 1988 (U.S. Fish and Wildlife Service, unpubl. data). Oregon's breeding population is of international importance and constitutes approximately 66% of all common murres breeding south of Alaska (Manuwal et al. in prep). Remote censusing using aerial photography is currently the only effective technique to assess population status of this species in Oregon. The extreme sensitivity of murres at their nest sites and the rough topography and isolation of most breeding sites in Oregon prohibit working in or near colony sites.

In 1988, the U.S. Fish and Wildlife Service (USFWS) conducted an inventory of all seabirds nesting along the Oregon coast. During the inventory, 66 active common murre colonies were located and 59 of these were censused using aerial photographic techniques. Since 1988, the USFWS has conducted annual photographic surveys of Oregon common murre colonies but due to funding limitations, these surveys have been limited to a single flight per colony each year. During annual surveys, all large colonies and all but five small colonies are photographed. The five small colonies not included in our annual survey occur on cliffs at Cape Meares where less than 215 birds were counted in 1988. These colonies are excluded from the survey to protect sensitive wildlife located there. For population monitoring, 15 established murre colonies distributed along the entire Oregon coast are censused each year using aerial photographs and the remaining colony photographs are archived for later use. The 15 colonies used for annual population monitoring along all of the Oregon coast should not be confused with the 15 colonies censused for this study along the Oregon north coast. Only 3 of our 15 annual monitoring sites occur along the Oregon north coast and were included in this study.

Following the 1990 breeding season, common murre colony attendance in Oregon began to decline. It is believed this decline was associated with poor oceanic productivity due to the 1991/92 El Niño. Elevated sea surface temperatures and corresponding low oceanic productivity have persisted in northern Oregon waters to this date. Impacts to the Oregon common murre breeding population appear to have peaked in 1993, when almost complete abandonment of colonies occurred during late incubation. Much of the decline in the number of murres at Oregon colonies from 1991-94 may have been a decline in colony attendance and not necessarily a decline in the population, as adults birds may have chosen not to breed in years of poor foraging conditions. This assumption is based, in part, on the results of beach mortality transects conducted near Newport, Oregon and the lack of known anthropogenically-induced mortality events such as oils spills and net entanglement.

In 1994, colony attendance by common murres began to recover when the number of murres attending our 15 colony monitoring sites distributed along the Oregon coast increased to 94% of the seven year mean value. This recovery continued in

1995 when the number of birds attending monitoring sites exceeded the 7-year mean by 2%, yielding a 1995 Oregon breeding population estimate of 742,492 birds. This is the third largest common murre breeding population estimate in Oregon since monitoring began in 1988 (USFWS, unpubl. data). At 8 of the 15 colony sites censused for this study on the Oregon north coast, record high numbers of birds were recorded on 7 June during our normal early June survey period. Of the remaining seven sites, record high numbers of birds were recorded at three of the colonies during the third replicate census conducted on 21 June.

While large numbers of murres were recorded at Oregon colonies in 1995, productivity at central and north coast colonies was believed to be low. This belief is not based on actual in-colony productivity measurements, but on observations away from colonies and from results of beach mortality transects. Shortly after murre chick departure from colonies in early July, large numbers of chicks washed ashore dead and were subsequently recorded on beach mortality transects. By late July/early August, few adult/chick murre pairs remained along the Oregon central and north coast where in normal years large numbers would be found.

During May and June of the 1995 breeding season, three replicate aerial photographic censuses of common murre colonies were conducted along the Oregon north coast. This effort was a cooperative study with funding provided by the Western Oregon Refuges Complex (USFWS), Region 1 - Nongame Migratory Bird Program (USFWS), Oregon Department of Fish and Wildlife Nongame Program, and the Tenyo Maru Trustee Council. The purpose of this study was to assess changes in colony attendance by murres through the breeding season, and to determine if a single annual survey is adequate for population monitoring in Oregon.

The Tenyo Maru Trustee Council agreed to partially fund this study as a Pilot Project for oil spill restoration planning purposes. The common murre was documented as the most seriously damaged species as a result of the Tenyo Maru oil spill that occurred off the entrance of the Strait of Juan de Fuca in July 1991. A significant number of the 3,157 dead common murres recovered in this Washington spill event may have originated from Oregon breeding colonies.[1] Since the Oregon common murre population was likely injured as a result of this spill, it is appropriate that seabird monitoring and restoration actions occur in Oregon as well as Washington.

METHODS

Three replicate aerial photographic censuses of 15 common murre colonies were conducted along the Oregon north coast on 23 May, 7 June and 21 June 1995. The colonies included in this study are located between Tillamook Head (45°56'45"N)

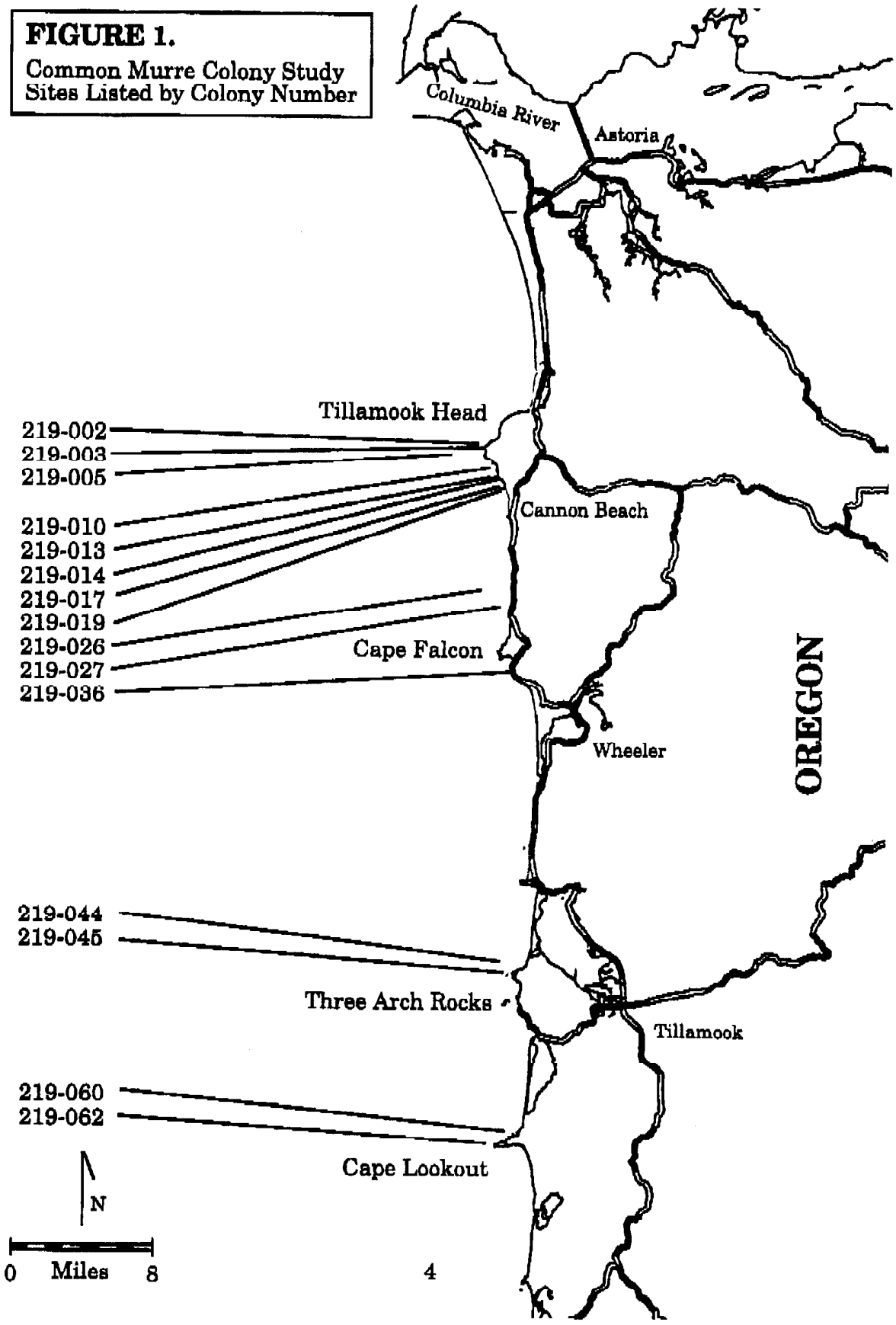
[1]Tenyo Maru Natural Resources Damage Assessment Meeting Transcripts, Neah Bay, Washington, February 7-8, 1995.

and Cape Lookout (45°20'12"N) and include the seven northernmost colonies in Oregon (Figure 1). Nine of the colonies selected contain more than 2,000 birds (range 2350-7679), typical of large Oregon colonies. The remaining six colonies, ranging from 44-244 birds, are similar in size to some Washington colonies.

This study was designed to include a census during the annual survey of Oregon murre colonies, herein referred to as our standard survey, and a census two weeks prior to and two weeks after the standard survey. Our standard survey is timed to coincide with late incubation and early hatching of Oregon murres. Due to the length of the Oregon coastline and the large number of murre colonies involved, the standard survey requires two days to complete. Attempts are made to conduct the standard survey flights on consecutive days if possible. The second replicate survey of this study was conducted as part of the standard Oregon north and central coast survey on 7 June. The annual southern Oregon coast murre survey was conducted on 8 June 1995. Weather was particularly poor for aerial surveys during the 1995 study period and we were extremely fortunate to complete the surveys as planned. Each flight was delayed by a day due to weather conditions and flights were conducted on the only four days possible during the study period. Survey flights were planned to occur at approximately the same time of day to reduce variability in colony attendance. The 23 May survey was initiated at 1154 Pacific Daylight Time (PDT); 7 June survey at 1145 PDT; and the 21 June survey at 1234 PDT. The latter survey was delayed 45 minutes due to rain showers in the Astoria area, where all survey flights originated.

The survey platform used for this study was a float-equipped, Hughes 500D helicopter. In accordance with Oregon survey methods, two photographers participated on each survey flight. The photographers were positioned in the right front and rear seats with the doors removed. Photographs were taken as the helicopter slowly circumnavigated the colonies at an altitude of 800-1000' above sea level. The front seat photographer used a Canon EOS A2E 35 mm camera with a Canon EF 100-300 mm f/4.5 autofocus lens to obtain closeup overlapping colony photographs. The back seat photographer used a Nikon N-90 35 mm camera with a Nikon 80-200 mm f/2.8 autofocus lens for larger colony overviews and to assist with positioning overlapping closeup slides during counting. Film used was Fujichrome Sensia 400 ASA and shutter speeds of 1/500 or faster were used. After processing, sorting, and labeling, overlapping colony slides were projected onto large sheets of paper using three or four projectors simultaneously. Individual birds were then circled by hand and tallied on hand held counters. Upon completion of the counting process, images of all slides used for counting were digitally transferred onto a CD-ROM disc using the Kodak Photo CD™ process, for archival purposes. Each image was recorded on the CD in five different resolutions ranging from 128 x 192 pixels to 2048 x 3072 pixels. A list of the images by colony and date is included in Appendix I. One complete set of CDs has been retained at the Oregon Coastal Refuges Office in Newport, Oregon and a second set has been submitted to the Tenyo Maru Trustee Council, Olympia, Washington. The original color slides have been placed in polyethelene sheets and storage

FIGURE 1.
Common Murre Colony Study Sites Listed by Colony Number



boxes and archived at the Oregon Coastal Refuges Office.

RESULTS AND DISCUSSION

Replicate aerial photographic censuses were conducted at 15 Oregon north coast colonies on 23 May, 7 June and 21 June 1995. The total number of murres counted at the 15 colony sites during the study ranged from 45,040 to 46,803 with a mean of 46,014 (Table 1.). The number of common murres at these 15 sites represents about 9.7% of the Oregon breeding population.

Given all the variables associated with murre colony attendance patterns and the large number of birds involved, the variability among the three censuses was very low. The 23 May censuses recorded 1.3% more birds than the census during our standard survey on 7 June and the 21 June censuses recorded 2.5% fewer birds. However, the mean of the three censuses was only 0.4% less than the number recorded on the census during the standard survey on 7 June (Table 1.). Thus for overall population monitoring purposes in 1995, there was little difference between our standard survey on 7 June and the mean of three censuses conducted during a one month period.

Variation at some individual colonies, however, was considerable. At colony 219-010, an established small colony located near Ecola State Park, no murres were present on 23 May, but near-normal numbers were present on 7 June, and about double the normal number were present on the 21 June census. At Brown Rock (219-060) located on the north side of Cape Lookout, murres declined from 2,350 birds on 23 May to a low of 718 on 21 June. This was the only study site where colony attendance declined throughout the study period. Brandt's cormorants nesting on this rock exhibited a similar but more severe decline from 600 birds on 23 May to complete abandonment on 21 June.

As expected, small colonies (<250 birds) showed greater variability in colony attendance (see Table 1). The number of birds present at individual small colonies ranged from 28.4% fewer to 80.8% greater than the calculated mean. Collective survey totals for small colonies ranged from 27.0% fewer to 30.0% greater than the mean number. Large colonies (>2,000 birds) comprised 9 of the 15 colony sites and 98.6% of the birds included in this study. Large colonies exhibited less variation both individually and as a group. At individual large colonies the variation from the mean ranged from 41.3% more to 56.8% fewer birds, but both of these extremes were recorded at Brown Rock (219-060) where at least partial colony abandonment occurred. The total number of birds at all large colonies on the 7 June census was only 0.5% greater than the mean for all large colonies and ranged from 2.1% more on 23 May to 2.6% fewer on 21 June.

The results of this study may have been affected by breeding conditions murres experienced in 1995. We believe that murre productivity along the Oregon north coast was greatly reduced due to continuing poor oceanic conditions. These conditions may have impacted other seabird species as well. Brandt's cormorants

Table 1. Results of 1995 Replicate Aerial Surveys of 15 Oregon North Coast Common Murre Colonies.

LARGE COLONIES

Colony Name	Colony No	23 May	% Variation From Mean	7 June	% Variation From Mean	21 June	% Variation From Mean	MEAN
Tillamook Rock	219-005	7488	1.3	7199	-2.6	7479	1.2	7389
Sea Lion Rock	219-013	2508	-3.8	2694	3.3	2623	0.6	2608
Bird Rocks (Northern)	219-017	3047	3.4	3145	6.7	2649	-10.1	2947
Bird Rocks (South-Central)	219-019	6549	-5.2	7143	3.4	7029	1.8	6907
Castle Rock	219-026	7279	3.5	6132	-12.8	7679	9.2	7030
Gull Rock	219-027	5312	5.4	5342	6.0	4462	-11.5	5039
Pyramid Rock	219-044	4428	-3.3	4926	7.6	4381	-4.3	4578
Pillar Rock	219-045	7377	2.2	7079	-1.9	7192	-0.3	7216
Brown Rock	219-060	2359	41.3	1922	15.6	718	-56.8	1663
SUBTOTAL		46,338	2.1	45,582	0.5	44,212	-2.6	45,377

SMALL COLONIES

Colony Name	Colony No	23 May	% Variation From Mean	7 June	% Variation From Mean	21 June	% Variation From Mean	MEAN
Tillamook Head Rock	219-002	80	15.9	67	-2.9	60	-13.0	69
Unnamed Rock	219-003	106	-28.4	118	-20.3	221	49.3	148
Unnamed Rock	219-010	0	----	129	4.0	244	96.8	124
Unnamed Rock	219-014	136	5.4	130	0.8	120	-7.0	129
Unnamed Rock	219-036	38	-9.5	43	2.4	44	4.8	42
Cape lookout (West End)	219-062	105	-16.0	132	5.6	139	11.2	125
SUBTOTAL		465	-27.0	619	-2.8	828	30.0	637
TOTAL		**46803**	**1.7**	**46201**	**0.4**	**45040**	**-2.1**	**46014**

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(*Phalacrocorax penicillatus*) nest interspersed with or adjacent to murres at 13 of the 15 colonies censused for this study. During the 23 May census a total of 4,442 Brandt's cormorants were recorded nesting in the study area but declined by 39% to 2,702 birds on the 21 June census. Widespread abandonment of nesting sites by cormorants was also recorded along the outer Washington coast in 1995 (U. Wilson, pers. comm.).

In addition to possible impacts associated with ocean conditions, murre productivity was likely negatively impacted by bald eagles (*Haliaeetus leucocephalus*) at two of the largest nesting areas on the Oregon north coast. At Three Arch Rocks National Wildlife Refuge, where more than 200,000 common murres nest annually, juvenile eagles arrived in early March and immediately displaced the murres from the rocks. From late March through the first week of May, from 2-7 juvenile bald eagles were observed at Three Arch Rocks, preventing most of the murres from landing on the rocks. During this period tens of thousands of murres were present in the waters around the rocks. By 11 May the juvenile eagles had apparently departed the area and the murres began to recolonize the rocks; however, under normal circumstances, murres would have been in the late egg laying/incubation stage at this time. The late start in nesting at Three Arch Rocks in 1995 likely impacted productivity, since the timing of nesting initiation appears to be critical in Oregon murre production. Although fewer observations were obtained, juvenile eagle harassment of nesting murres also occurred at Birds Rocks, located near Cannon Beach. At Bird Rocks, where approximately 46,000 murres breed in three colonies, the presence of eagles prevented the murres from nesting at least through early May and may also have been responsible for the large-scale abandonment of the largest of the three colonies as documented during our 21 June survey flight. The disruption of common murre breeding phenology in Oregon due to bald eagles had never been observed or reported prior to 1995.

CONCLUSION

This study, and a similar one conducted in Washington in 1995, are the first tests of replicate aerial photographic censuses of common murres in this area. The results of this study in Oregon in 1995 reveal only small differences among the three surveys for population level monitoring purposes. The early survey conducted on 23 May recorded 1.3% more birds than our standard survey in early June, and the late survey on 21 June recorded 2.5% fewer birds than our standard survey. The mean of the three surveys was only 0.4% less than our standard survey. Individual murre colonies exhibited considerable variation in colony attendance, ranging from increasing number of birds to declining numbers through the survey period. As expected, variation in colony attendance at small colonies was much greater than at large colonies.

Aerial photographic censuses of breeding common murres is currently the best technique available for population level monitoring of this species over large geographic areas. The results of this study suggest that, at least in 1995, a single,

well-timed survey may be sufficient for population monitoring. However, caution should be used in interpreting these results. Since single-season replicate surveys have never been conducted prior to this study, further testing of this technique is necessary to determine if the results are consistent from year to year and that the results obtained in 1995 are not anomalous.

RECOMMENDATION

Replicate aerial surveys should be conducted for a minimum of two more breeding seasons in Oregon to test the validity of conducting one versus three surveys per season for population monitoring of common murres.

ACKNOWLEDGMENTS

This study was a cooperative interagency effort. We would like to thank the Tenyo Maru Trustee Council for their support in providing funding for this study. We also thank Tara Zimmerman and the USFWS Region 1 Migratory Bird Coordinators Office for providing scarce nongame bird funding for this project. Thanks also go to Robin Brown and the Oregon Department of Fish and Wildlife for their continuing support in protecting Oregon's seabird populations and for providing nongame funding to support this project.

A special thanks go to owner Jim Mott of Eagle Air Helicopters in Forks, Washington for the timely and costly alterations made to his airship to meet federal safety requirements for our use. We also greatly appreciate the able skills of helicopter pilot Jimmy Schuler.

Annual aerial photographic surveys would not have been possible without the continued support of former Western Oregon Refuges Project Leader, Palmer C. Sekora. Palmer's commitment to protecting Oregon seabird populations insured that the expensive annual aerial survey of common murres occurred each year despite a declining operational budget. We also thank current Project Leader James E. Houk for his support of the 1995 survey and commitment to conducting the 1996 survey.

APPENDIX I

Digital Image List of Aerial Photographs from 5/23/95 Census on CD-ROM #1

Colony Number	Date	Slide Number	Disk Image Number	Colony Number	Date	Slide Number	Disk Image Number
219-002	6/21/95	7	001	219-026	6/21/95	8	061
"	6/21/95	5	002	"	6/21/95	7	062
"	6/21/95	4	003	219-027	6/21/95	11	063
"	6/21/95	6	004	"	6/21/95	7	064
219-003	6/21/95	4	005	"	6/21/95	1	065
"	6/21/95	2	006	"	6/21/95	2	066
"	6/21/95	3	007	219-036	6/21/95	3	067
"	6/21/95	1	008	"	6/21/95	4	068
"	6/21/95	3	009	219-044	6/21/95	6	069
"	6/21/95	4	010	"	6/21/95	13	060
219-005	6/21/95	5	011	"	6/21/95	15	061
"	6/21/95	6	012	"	6/21/95	14	062
"	6/21/95	7	013	"	6/21/95	13	063
"	6/21/95	8	014	"	6/21/95	1	064
"	6/21/95	9	015	"	6/21/95	2	065
"	6/21/95	10	016	"	6/21/95	3	066
"	6/21/95	11	017	"	6/21/95	4	067
"	6/21/95	12	018	"	6/21/95	5	068
"	6/21/95	13	019	219-045	6/21/95	6	069
"	6/21/95	1	020	"	6/21/95	7	070
"	6/21/95	11	021	"	6/21/95	8	071
"	6/21/95	12	022	"	6/21/95	9	072
219-010	6/21/95	12	023	"	6/21/95	10	073
219-013	6/21/95	4	024	"	6/21/95	11	074
"	6/21/95	3	025	"	6/21/95	12	075
"	6/21/95	2	026	"	6/21/95	14	076
"	6/21/95	1	027	"	6/21/95	1	077
"	6/21/95	5	028	"	6/21/95	2	078
"	6/21/95	6	029	219-060	6/21/95	6	079
"	6/21/95	7	030	"	6/21/95	3	080
"	6/21/95	9	031	"	6/21/95	4	081
"	6/21/95	8	032	"	6/21/95	5	082
219-014	6/21/95	10	033	"	6/21/95	7	083
219-017	6/21/95	11	034	"	6/21/95	8	084
"	6/21/95	1	035	"	6/21/95	9	085
"	6/21/95	4	036	"	6/21/95	10	086
"	6/21/95	1	037	"	6/21/95	11	087
219-019	6/21/95	3	038	"	6/21/95	1	088
"	6/21/95	2	039	"	6/21/95	2	089
"	6/21/95	5	040	"	6/21/95	3	090
"	6/21/95	2	041	"	6/21/95	4	091
"	6/21/95	1	042	"	6/21/95	5	092
219-026	6/21/95	3	043	"	6/21/95	6	093
"	6/21/95	4	044	"	6/21/95	7	094
"	6/21/95	1	045	"	6/21/95	8	095
"	6/21/95	2	046	"	6/21/95	9	096
"	6/21/95	3	047	219-062	6/21/95	3	097
"	6/21/95	4	048	"	6/21/95	1	098
"	6/21/95	5	049	"	6/21/95	2	099
"	6/21/95	6	050	"	6/21/95	4	100

Appendix I

Digital Image List of Aerial Photographs from 6/7/95 Census on CD-ROM #2

Colony Number	Date	Slide Number	Disk Image Number	Colony Number	Date	Slide Number	Disk Image Number
219-002	5/23/95	7	001	219-026	6/7/95	14	051
"	6/7/95	33	002	"	6/7/95	15	052
"	6/7/95	4	003	"	6/7/95	8	053
"	6/7/95	24	004	"	6/7/95	32	054
219-003	6/7/95	9	005	"	6/7/95	30	055
"	6/7/95	23	006	"	6/7/95	35	056
"	6/7/95	36	007	219-027	6/7/95	23	057
"	6/7/95	28	008	"	6/7/95	31	058
219-005	6/7/95	15	009	"	6/7/95	29	059
"	6/7/95	17	010	"	6/7/95	28	060
"	6/7/95	5	011	"	6/7/95	20	061
"	6/7/95	2	012	"	6/7/95	27	062
"	6/7/95	32	013	219-036	6/7/95	13	063
"	6/7/95	29	014	"	6/7/95	28	064
"	6/7/95	33	015	219-044	6/7/95	12	065
"	6/7/95	9	016	"	6/7/95	19	066
"	6/7/95	24	017	"	6/7/95	18	067
"	6/7/95	25	018	"	6/7/95	21	068
"	6/7/95	22	019	"	6/7/95	13	069
"	6/7/95	30	020	219-045	6/7/95	28	070
219-010	6/7/95	26	021	"	6/7/95	29	071
"	6/7/95	27	022	"	6/7/95	30	072
"	6/7/95	28	023	"	6/7/95	31	073
219-013	6/7/95	12	024	219-060	6/7/95	37	074
"	6/7/95	13	025	"	6/7/95	33	075
"	6/7/95	35	026	"	6/7/95	18	076
"	6/7/95	10	027	"	6/7/95	3	077
"	6/7/95	18	028	"	6/7/95	7	078
"	6/7/95	23	029	"	6/7/95	24	079
"	6/7/95	4	030	"	6/7/95	23	080
"	6/7/95	2	031	"	6/7/95	10	081
"	6/7/95	36	032	"	6/7/95	2	082
"	6/7/95	6	033	"	6/7/95	9	083
219-014	6/7/95	33	034	"	6/7/95	26	084
"	6/7/95	31	035	"	6/7/95	15	085
219-017	6/7/95	4	036	219-062	6/7/95	13	086
"	6/7/95	19	037	"	6/7/95	10	087
"	6/7/95	29	038	"	6/7/95	24	088
"	6/7/95	1	039	"	6/7/95	33	089
"	6/7/95	4	040	"	6/7/95	21	090
219-019	6/7/95	31	041	Helicopter	6/8/95	33	091
"	6/7/95	21	042	Photographing	6/7/95	22	092
"	6/7/95	27	043	"	6/7/95	25	093
"	6/7/95	28	044	"	6/21/95	8	094
"	6/7/95	7	045	Counting	2/6/96	35	095
"	6/7/95	3	046	"	2/6/96	28	096
"	6/7/95	22	047	Count Sheet	8/16/88	7	097
"	6/7/95	4	048	Common Murre	4/14/79	16	098
219-026	6/7/95	6	049	"	6/24/81	12	099
"	6/7/95	17	050	Tufted Puffin	6/25/81	1	100

Appendix I

Digital Image List of Aerial Photographs from 6/21/95 Census on CD-ROM #3

Colony Number	Date	Slide Number	Disk Image Number	Colony Number	Date	Slide Number	Disk Image Number
219-002	6/21/95	7	001	219-026	6/21/95	8	051
"	6/21/95	5	002	"	6/21/95	7	052
"	6/21/95	4	003	"	6/21/95	11	053
"	6/21/95	6	004	219-027	6/21/95	7	054
219-003	6/21/95	4	005	"	6/21/95	1	055
"	6/21/95	2	006	"	6/21/95	2	056
"	6/21/95	3	007	"	6/21/95	3	057
219-005	6/21/95	1	008	"	6/21/95	4	058
"	6/21/95	3	009	"	6/21/95	6	059
"	6/21/95	4	010	219-036	6/21/95	13	060
"	6/21/95	5	011	"	6/21/95	15	061
"	6/21/95	6	012	"	6/21/95	14	062
"	6/21/95	7	013	219-044	6/21/95	13	063
"	6/21/95	8	014	"	6/21/95	1	064
"	6/21/95	9	015	"	6/21/95	2	065
"	6/21/95	10	016	"	6/21/95	3	066
"	6/21/95	11	017	"	6/21/95	4	067
"	6/21/95	12	018	"	6/21/95	5	068
"	6/21/95	13	019	"	6/21/95	6	069
219-010	6/21/95	1	020	"	6/21/95	7	070
"	6/21/95	11	021	"	6/21/95	8	071
"	6/21/95	12	022	"	6/21/95	9	072
219-013	6/21/95	12	023	"	6/21/95	10	073
"	6/21/95	4	024	"	6/21/95	11	074
"	6/21/95	3	025	"	6/21/95	12	075
"	6/21/95	2	026	219-045	6/21/95	14	076
"	6/21/95	1	027	"	6/21/95	1	077
"	6/21/95	5	028	"	6/21/95	2	078
"	6/21/95	6	029	"	6/21/95	6	079
"	6/21/95	7	030	"	6/21/95	3	080
"	6/21/95	8	031	"	6/21/95	4	081
"	6/21/95	9	032	"	6/21/95	5	082
"	6/21/95	10	033	"	6/21/95	7	083
"	6/21/95	11	034	"	6/21/95	8	084
219-014	6/21/95	1	035	"	6/21/95	9	085
219-017	6/21/95	4	036	"	6/21/95	10	086
"	6/21/95	1	037	219-060	6/21/95	11	087
"	6/21/95	3	038	"	6/21/95	1	088
"	6/21/95	2	039	"	6/21/95	2	089
219-019	6/21/95	5	040	"	6/21/95	3	090
"	6/21/95	2	041	"	6/21/95	4	091
"	6/21/95	1	042	"	6/21/95	5	092
"	6/21/95	3	043	"	6/21/95	6	093
"	6/21/95	4	044	"	6/21/95	7	094
219-026	6/21/95	1	045	"	6/21/95	8	095
"	6/21/95	2	046	"	6/21/95	9	096
"	6/21/95	3	047	219-062	6/21/95	3	097
"	6/21/95	4	048	"	6/21/95	1	098
"	6/21/95	5	049	"	6/21/95	2	099
"	6/21/95	6	050	"	6/21/95	4	100